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A61K 9/14; A61F 13/00

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[56] References Cited

U.S. PATENT DOCUMENTS

4,863,735 9/1989 Kohn et al. ..... 424/422  
4,897,268 1/1990 Tice et al. ..... 424/422

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[57] ABSTRACT

This invention relates to parenteral and mucosal vaccines  
against diseases caused by intracellular pathogens using  
antigens encapsulated within a biodegradable-  
biocompatible microspheres(matrix).

14 Claims, 2 Drawing Sheets